

ABSTRACT OF THE DISCLOSURE

An automated optical inspection system includes a plurality of asynchronously triggerable cameras for providing image data of an object, such as a printed circuit board. The circuit board is divided into fields of view that are to be imaged in one or more cameras in one or more lighting modes. Each location on the board can be imaged by each camera in a plurality of lighting modes in a single pass across the board. The image data for each of the cameras can be concurrently transferred directly to main memory for opportunistic analysis by the main computer. The system allows the full bandwidth of the cameras to be utilized for reducing the inspection time of the board.

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